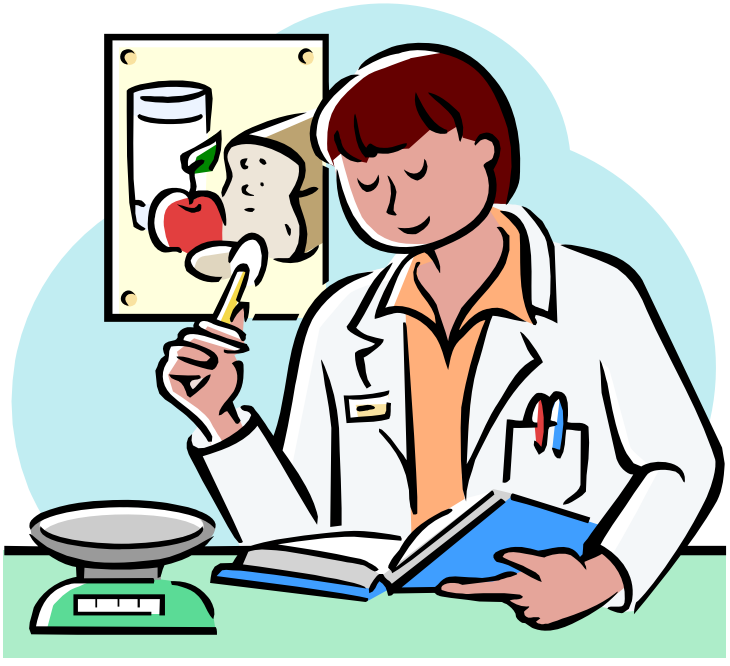
RCCI
BEST PRACTICES



CHAPTER 20

RCCI BEST PRACTICES

Planning to Meet the Meal Patterns

First and foremost, menus must be appealing. Nutritious, yes, but food nourishes only if it is eaten.

Next, all CN Program requirements for reimbursable meals must be met. Fortunately, the SMI is consistent with nutrition goals.

Lastly, children "eat" first with their eyes. How the food looks can stimulate their appetite.

Consider eye appeal in each meal plan:

- Complementing colors
- Variety of shapes
- Texture of contrast

Picture the whole meal on the plate. The color of beets on the same plate with spaghetti and tomato sauce is just as unappealing as baked fish with mashed potatoes. Baked chicken with Spanish rice and spaghetti with tossed salad are much better choices.

In a meal that is comprised of mashed potatoes, applesauce and tuna casserole, textures and shapes are too similar. A garden salad would be more appealing than mashed potatoes with tuna casserole and fresh apple slices would add crisp texture. Take advantage of food shapes to make the presentation more interesting. Carrots, for example, can be served as rounds, cubes, shreds, or strips.

Consider variety:

- Flavors: Each menu should have some strong flavors, and some mild flavored foods. Broccoli and mashed potatoes, for example, or bagel sandwiches with fresh oranges.
- Temperature: Contrasts add interest to a meal; some cold foods, some hot; e.g., salad with casseroles and toast with cereal.
- Form: Favorite foods may be repeated more often when served in a different form; e.g., ground beef as hamburgers, tacos or pizza.
- Substance: Serve lighter foods with heavier dishes; e.g., slaw with beans and rice, fresh produce with club sandwiches.
- Choices: Offering choices of two vegetables or two fruits makes the menu more acceptable to more people and encourages children to try small servings of new foods that are served along with their favorites. Alternate a variety of choices within a seven-day week of fruits and vegetables. Do not offer the same food item on the same day of the week. Offer fresh fruits and vegetables year round.

Consider equipment:

- Is refrigerator and freezer space available to store foods on the menus between trips to market?
- Are there too many dishes to go into the oven at one time or too many pans on the stove top?

Consider cost:

- Does the program have a realistic food budget?
- Is the food cost examined periodically?
- Are donated foods used wisely?

Cycle Menus

A cycle menu is a series of menus planned for several weeks and then repeated, perfected as the cycle is used. Generally cycle menus are most efficient. With cycle menus the meals can be varied, and costs can be controlled. The cycle menu can be revised if a problem is encountered with acceptability or preparation time.

Cycle menus make it possible to predict amounts to prepare based on past experience. Preparation methods can be standardized to assure quality control.

A two-week menu cycle is practical in a residence where children stay for only a few days or weeks. A four-week or longer cycle avoids monotony in residences that offer long-term care.

Most people enjoy different foods in different seasons. Seasonal cycle menus are most acceptable and take advantage of seasonal foods, which helps keep costs low.

Cycle menus are efficient, but it is important to be flexible enough to change the menu for special events and to make best use of donated and home-grown food. Menus should be altered and special meals planned before shopping for the rest of the cycle.

Grains/Breads

Use as many whole grain products as possible. Whole grain is a good source of fiber and has 35 different vitamins and minerals. When grain is refined, fiber comes out, and all the vitamins and minerals are either lost or diminished. Enriching adds back only three vitamins (niacin, thiamin, and riboflavin) and iron.

Fruits and Vegetables

Add fruit to breakfast, lunch and dinner. When using fresh produce on a cycle menu, take advantage of price, availability, and home-grown seasonal produce, such as peaches and apples.

Offering choices of vegetables is especially important, so children learn to like a variety of vegetables. If they turn down a vegetable at a meal, try serving it again prepared a little differently. When children are not familiar with certain foods it may take serving it to them several times before they will try/accept it. Again, take advantage of as many seasonal specials and locally-grown vegetables as possible.

Meat/Meat Alternate

Depending on the grain chosen, decide on a protein source - meat, poultry, fish, eggs, yogurt, peanut butter, cheese, or dry beans and peas - that will complement the breads and cereals in the meal. You may have some meatless days.

Milk

Finally, add low-fat milk for the beverage. Remember that you need to offer a variety of milk fats. Example: non-fat white milk, 1 %white milk and 1% chocolate. A variety of milk fats is not required on a daily basis.

Other Foods

Other foods may be added to complete the menu. Specific foods may be needed to boost or reduce calorie level in a low-fat meal. Note: When planning snacks and dinner, remember to follow the same procedure to ensure that the total daily intake of food meets the Food Guide Pyramid.

The total daily needs for children can be met with foods in the dinner menu and planned healthy snacks added to the CNP breakfast and lunch.

Good Menu Characteristics

When your menus have been planned, check them against these criteria.

Acceptability Characteristics

- Color – varied and compatible hues?
- Texture – combination of soft and firm, starchy and juicy, crunchy and mushy?
- Shape – all the same or different size pieces and shapes?
- Flavor – contrasting bland and tart, sweet and sour, mild and strong?
- Temperature – some hot and some cold foods?
- Are most of the foods popular with children and have a few new foods also been included, along with new preparation methods and less popular foods?

Identify High-Fat Foods

- Are several high-fat foods served in the same meal?
- Are high-fat foods served infrequently?
- Are preparation methods generally recipes that call for less fat?

Identify High-Sugar Foods

- Are high-sugar foods balanced with tart foods in the same meal?
- Are serving sizes of high-sugar foods smaller, and are those foods served less often, substituting naturally sweet foods such as fruits?
- Are food preparation methods that require less sugar used whenever possible?

Identify Salty Foods

- Are salty foods balanced with low-sodium foods in the same meal?
- Are the number of salty foods limited to moderate levels?
- Are food preparation methods used that require less salt?

Increase Fruits and Vegetables

- Are at least five servings of fruits and vegetables included every day?
- Is a good source of vitamin A included three or four times a week? (See page 20.6 for a list of foods high in vitamin A.)
- Is a good source of vitamin C included daily? (See page 20.7 for a list of foods high in C.)

Increase Grains and Breads

- Are several foods that are good sources of iron included every day? (See page 20.8 for a list of foods high in iron.)
- For Food-Based option, are the grains/breads requirements being met?

Special Needs

- Is there a plan to adjust for the higher or lower calorie requirements of some children with special needs?

Requirements

- Do all breakfast and lunch menus include all food items/menu items for reimbursable meals?

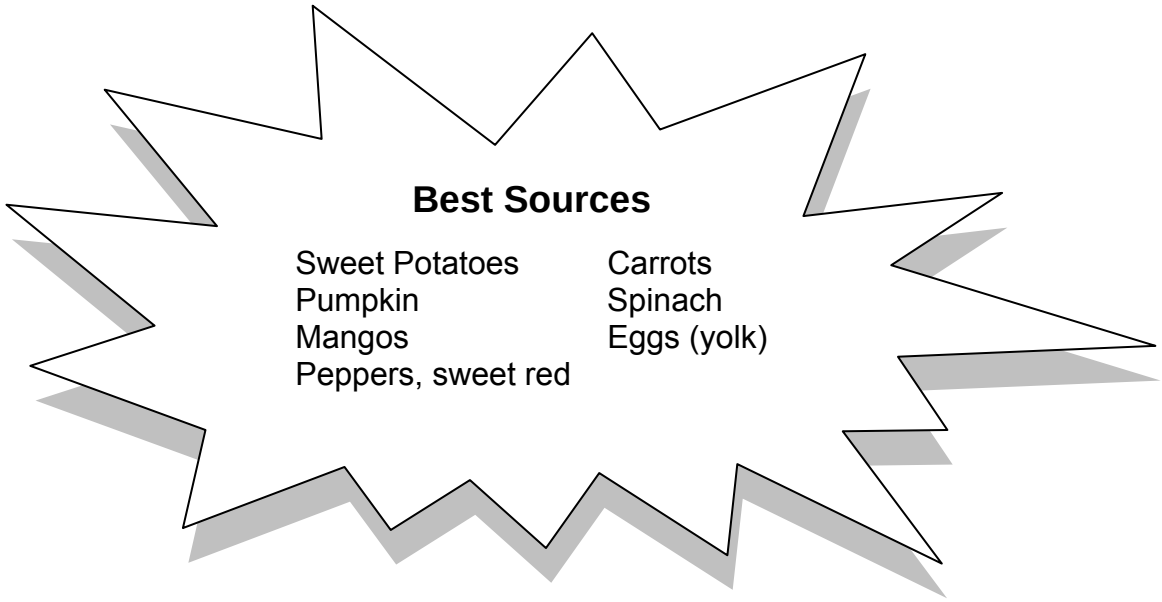
Being Practical

- Are high-cost foods and meals balanced with economy foods?
- Have the menus taken advantage of donated foods?
- Do the menus take advantage of seasonal and home-grown foods?
- Is there room to store the foods that will be needed to prepare the menus?
- Does the kitchen have oven space and proper size cooking and serving utensils available for each meal?
- Will there be time to prepare the foods for each meal?
- Will it be possible to get everything ready for each meal by serving time?

Low Fat Suggestions

High-Fat Favorites	Low-Fat Choice	Additional Choices
Whole milk	Low-fat milk	Low-fat chocolate milk
Cheddar cheese	Part-skim mozzarella	Farmers cheese, low-fat cheeses
Sausage	Lean ham	Low-cholesterol eggs or egg whites, turkey, lean roast beef, mozzarella, peanut butter
Hot dog	Turkey wiener	Roast beef, lean pork, baked chicken, tuna, salmon, turkey
Batter-fried fish	Grilled fish	Tuna, salmon, baked fish, chicken, lean beef or pork, beans
Fried chicken	Barbecue chicken	Baked chicken, roast turkey
Supreme pizza	Cheese pizza	Seafood pizza; turkey, lean beef or pork, chicken or turkey sub, tuna on a bagel
Beef burrito	Bean burrito	Low-fat taco, low-fat burrito
Finger steaks	Roast beef	Any lean meat, poultry or fish, baked, grilled, or poached
French fries	Baked potato	Mashed or roast potato, potato pancake
Enchiladas	Tacos	Low-fat burritos, low-fat taco salad
Fruit cobbler	Fresh fruit	Canned or frozen fruit
Croissant	Pancakes	Waffles, muffins, pancakes, breakfast sandwich

Vitamin A: Where to Find It



Good Sources

Cantaloupe	Apricots, dried
Cheese, cheddar	Prunes, dried
Mustard Greens	Broccoli
Collard Greens	Apricots, fresh
Romaine Lettuce	

Fair Sources

Peppers, green	Oranges, fresh
Tomatoes	Cherries, red sour
Asparagus	Orange juice
Peaches, raw	Squash
Chard	

Menu Planning Tips to Increase Vitamin A Intake

1. Plan one vitamin A food in breakfast or lunch menus every day or at least three times per week.
2. Check the brand of milk you serve to see if it is vitamin A fortified.
3. Choose fruits and vegetables high in vitamin A for their eye appeal. Is the lunch plate colorful?
4. Plan mealtime food preparation activities for resident's participation to encourage acceptance of new foods high in vitamin A.

Vitamin C: Where to Find It

Best Sources

Peppers, red	Strawberries
Broccoli	Oranges, fresh
Brussels Sprouts	Lemons
Peppers, green	Orange juice
Peppers, chili	Cauliflower
Papaya	Cantaloupe

Apple Juice, vitamin C fortified
Grape Juice, vitamin C fortified

Good Sources

Tangerines	Raspberries, red
Grapefruit, juice	Tomatoes, fresh
Collard Greens	Cabbage
Honeydew Melon	Tomato, juice

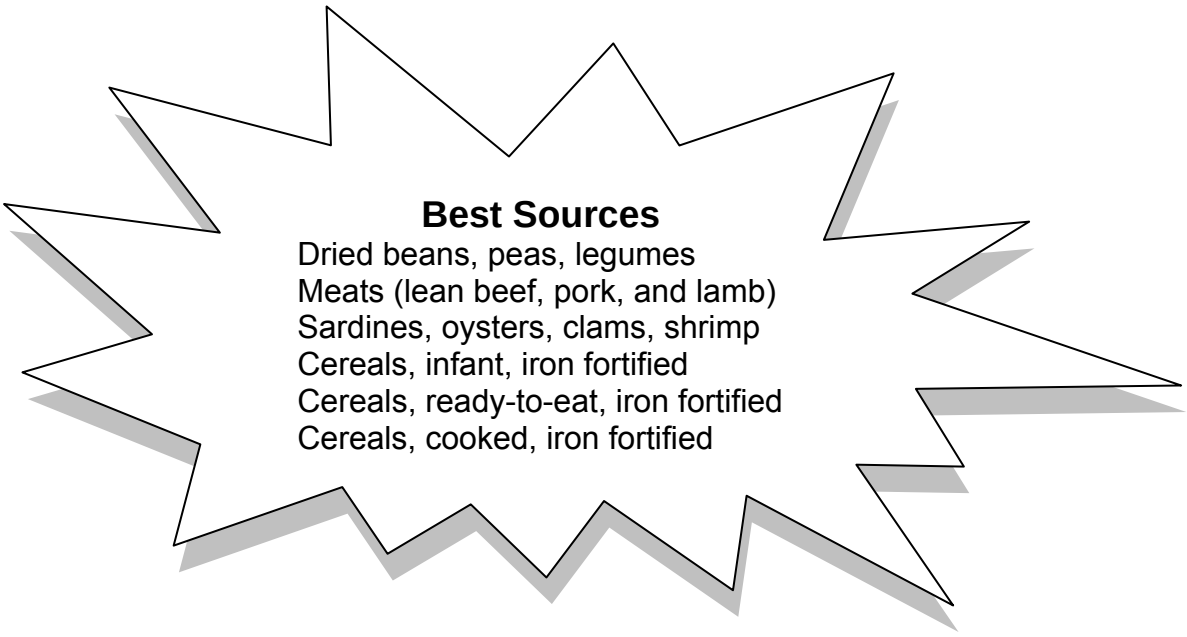
Fair Sources

Pineapple, raw	Asparagus
Squash	Spinach
Watermelon	Turnips
Potato, w/skin, baked	

Menu Planning Tips to Increase Vitamin C Intake

1. Plan a high vitamin C food in breakfast, lunch or snack menus every day.
2. Prepare fresh fruits and vegetables as often as possible to take advantage of the interesting shapes and bright, natural colors of the foods.
3. Plan menus to combine high iron foods with high vitamin C foods to get the most iron available.
4. Plan mealtime preparation so vitamin C foods can be prepared only a short time before meal service to preserve most of the vitamins. If prepared in advance, cover tightly and refrigerate until serving.

Iron: Where to Find It



Good Sources

Dark green leafy vegetables
Eggs (yolk)
Whole grain/enriched breads
Wheat germ
Apricots, dried

Fair Sources

Green Peas	Dried fruits
Prune juice	Apricots
Baked Potatoes	Bean Sprouts
Chicken and Turkey	Peanut Butter

Fish (tuna, mackerel)
Dark orange vegetables

Menu Planning Tips to Increase Iron Intake

1. Add small amount of meat to soups, stews, legume dishes, and sandwiches to increase the iron absorbed from vegetables and grains. Example: the meat and tomatoes in chili help us absorb more of the iron from the beans.
2. Serve high vitamin C fruits/vegetables/juices with cereal, breads, eggs or legumes in the same meal to increase iron absorption.
3. Cook acid foods such as spaghetti sauce and chili in iron skillets or pans to increase iron intake.
4. Think of a new bean dish to serve each week. Legumes are economical and a source of protein, iron, fiber, complex carbohydrates, vitamins, and minerals.
5. Tomatoes on a sandwich will increase iron absorption.

Fiber: Where to Find It

Best Sources

Barley	Dates (1 oz)
Navy Beans	Green Peas
Split Peas	Oat Bran (raw)
Lentils	Refried Beans
Wheat Flour	All-Bran Cereal
Raspberries (raw)	Baked Beans

Brussels Sprouts (frozen)

Good Sources

Couscous, dry	Strawberries (raw)
Pears	Prunes
Spinach	Broccoli (raw)
Raisins (1 oz)	Carrots
Mixed Vegetables	Corn
Potatoes (w/skin)	Rice

Shredded Wheat Cereal

Fair Sources

Grapes	Melons
Granola Bars	Popcorn
Tomato Soup	Lettuce
Graham Crackers	Apples (w/out skin)

Non-bran Cereals

Menu Planning Tips to Increase Fiber Intake

1. A good source of whole grain is not always a good source of fiber. Many whole grain foods are not a good source of fiber, yet still provide the health promoting benefits of whole grain.
2. Many high fiber foods, such as bran cereals, do not provide whole grain.
3. Benefits of high fiber foods include the prevention of constipation and lowering cholesterol.
4. State regulations require 1 gram of fiber for every 100 calories.

Best Practice Part 2: Food Safety in a Nutshell

This website is the source of the following material. Please check it out for additional information regarding food safety. http://www.fightbac.org/

Also, the State Department of Education, Child Nutrition Programs sponsors a class entitled *Serving It Safe*. Please plan to attend and send your employees to one of the classes.

Many people do not think about food safety until a food-related illness affects them or a family member. While the food supply in the United States is one of the safest in the world, Center of Disease Control (CDC) estimates that 76 million people get sick, more than 300,000 are hospitalized, and 5,000 Americans die each year from foodborne illness. Preventing foodborne illness and death remains a major public health challenge.

Safe Food Handling

The Core Four Practices
Right now, there may be an invisible enemy ready to strike. He's called BAC (bacteria) and he can make people sick. In fact, even though consumers can't see BAC - or smell him, or feel him - he and millions more like him may already be invading food products, kitchen surfaces, knives and other utensils.
But consumers have the power to Fight BAC!® and to keep food safe from harmful bacteria. It's as easy as following these four simple steps:

- **CLEAN:** *Wash hands and surfaces often*
- **SEPARATE:** *Don't cross-contaminate!*
- **COOK:** *Cook to proper temperature*
- **CHILL:** *Refrigerate promptly*

Clean: Wash Hands and Surfaces Often

Bacteria can be spread throughout the kitchen and get onto hands, cutting boards, utensils, counter tops and food. To Fight BAC!® always:

- Wash your hands with warm water and soap for at least 20 seconds before and after handling food and after using the bathroom, changing diapers and handling pets.
- Wash your cutting boards, dishes, utensils, and counter tops with hot soapy water before preparing each food item and before you go on the next food.
- Consider using paper towels to clean up kitchen surfaces. If you use cloth towels, wash in the hot cycle of your washing machine.
- Rinse fresh fruits and vegetables under running tap water, including those with skins and rinds that are not eaten.

Rub firm-skin fruits and vegetables under running tap water or scrub with a clean vegetable brush while rinsing with running tap water.

Separate: Don't Cross-Contaminate!

Cross-contamination is how bacteria can be spread. When handling raw meat, poultry, seafood and eggs, keep these foods and their juices away from ready-to-eat foods. Always start with a clean scene -- wash hands with warm water and soap. Wash cutting boards, dishes, countertops and utensils with hot soapy water.

- Separate raw meat, poultry, seafood and eggs from other foods in your grocery shopping cart, grocery bags and in your refrigerator.
- Use one cutting board for fresh produce and a separate one for raw meat, poultry and seafood.
- Never place cooked food on a plate that previously held raw meat, poultry, seafood or eggs.

Cook: Cook to Proper Temperatures

Food is safely cooked when it reaches a high enough internal temperature to kill the harmful bacteria that cause foodborne illness. Use a food thermometer to measure the internal temperature of cooked foods.

Use a food thermometer which measures the internal temperature of cooked meat, poultry and egg dishes, to make sure that the food is cooked to a safe internal temperature.

- Cook roasts and steaks to a minimum of 145°F. All poultry should reach a safe minimum internal temperature of 165°F as measured with a food thermometer. Check the internal temperature in the innermost part of the thigh and wing and the thickest part of the breast with a food thermometer.
- Cook ground meat, where bacteria can spread during grinding, to at least 160°F. Information from the Centers for Disease Control and Prevention (CDC) links eating undercooked ground beef with a higher risk of illness. **Remember, color is not a reliable indicator of doneness.** Use a food thermometer to check the internal temperature of your burgers.
- Cook roasts and steaks to a minimum of 145°F. All poultry should reach a safe minimum internal temperature of 165°F as measured with a food thermometer. Check the internal temperature in the innermost part of the thigh and wing and the thickest part of the breast with a food thermometer.
- Cook eggs until the yolk and white are firm, not runny. Don't use recipes in which eggs remain raw or only partially cooked.
- Cook fish to 145°F or until the flesh is opaque and separates easily with a fork.
- Make sure there are no cold spots in food (where bacteria can survive) when cooking in a microwave oven. For best results, cover food, stir and rotate for even cooking. If there is no turntable, rotate the dish by hand once or twice during cooking.
- Bring sauces, soups and gravy to a boil when reheating. Heat other leftovers thoroughly to 165°F.

Cook: Heat it Up Chart

Food is safely cooked when it reaches a high enough internal temperature to kill the harmful bacteria that cause illness. So Fight BAC!® by cooking food to the proper temperature:

Safe Cooking Temperatures - As measured with a food thermometer.

Ground Meat & Meat Mixtures	
Beef, Pork, Veal, Lamb	160° F
Turkey, Chicken	165° F
Fresh Beef, Veal Lamb	
Medium Rare	145° F
Medium	160° F
Well Done	170° F
Poultry	
Chicken & Turkey, whole	165° F
Poultry Parts	165° F
Duck & Goose	165° F
Stuffing (cooked alone or in bird)	165° F
Fresh Pork	
Medium	160° F
Well Done	170° F
Ham	
Fresh (raw)	160° F
Pre-cooked (to reheat)	140° F
Eggs & Egg Dishes	
Eggs	Cook until yolk & white are firm
Egg Dishes	160° F
Seafood	
Fin fish	145° F or until opaque & flakes easily with fork
Shrimp, Lobster & Crabs	Flesh pearly & opaque
Clams, Oysters & Mussels	Shells open during cooking
Scallops	Milky white or opaque & firm
Leftovers & Casseroles	165° F

Chill: Refrigerate Promptly!

Refrigerate foods quickly because cold temperatures slow the growth of harmful bacteria. Do not over-stuff the refrigerator. Cold air must circulate to help keep food safe. Keeping a constant refrigerator temperature of 40°F or below is one of the most effective ways to reduce the risk of foodborne illness. Use an appliance thermometer to be sure the temperature is consistently 40°F or below. The freezer temperature should be 0°F or below.

- Refrigerate or freeze meat, poultry, eggs and other perishables as soon as you get them home from the store.
- Never let raw meat, poultry, eggs, cooked food or cut fresh fruits or vegetables sit at room temperature more than two hours before putting them in the refrigerator or freezer (one hour when the temperature is above 90°F).
- Never defrost food at room temperature. Food must be kept at a safe temperature during thawing. There are three safe ways to defrost food: in the refrigerator, in cold water, and in the microwave. Food thawed in cold water or in the microwave should be cooked immediately.
- Always marinate food in the refrigerator.
- Divide large amounts of leftovers into shallow containers for quicker cooling in the refrigerator.
- Use or discard refrigerated food on a regular basis. Check the Cold Storage Chart for optimum storage times.

Chill! Cold Storage Chart

Cold Storage Chart -- be aware of how long foods have been in your refrigerator. When in doubt, throw it out!

Product	**Refrigerator (40 °F)**	**Freezer (0 °F)**
Eggs		
Fresh, in shell	3 to 5 weeks	Doesn't freeze well
Raw yolks, whites	2 to 4 days	1 year
Hardcooked	1 week	Doesn't freeze well
Liquid pasteurized eggs and egg substitutes opened unopened	 3 days 10 days	 Doesn't freeze well 1 year

Product	Refrigerator (40 °F)	Freezer (0 °F)
Mayonnaise		
commercial	Refrigerate after opening for up to 2 months	Doesn't freeze well
Deli & Vacuum-Packed Products		
3 to 5 days	Doesn't freeze well	
Hot dogs & Luncheon Meats		
1 week 2 weeks	1 to 2 months 1 to 2 months	
3 to 5 days 2 weeks	1 to 2 months 1 to 2 months	
Bacon & Sausage		
Bacon	7 days	1 month
Sausage, raw from chicken, turkey, pork, beef	1 to 2 days	1 to 2 months
Smoked breakfast links, patties	7 days	1 to 2 months
Hard sausage--pepperoni, jerky sticks	2 to 3 weeks	1 to 2 months
Summer sausage--labeled "Keep Refrigerated" opened unopened	 3 weeks 3 months	 1 to 2 months 1 to 2 months

Product	Refrigerator (40 °F)	Freezer (0 °F)
Ham, Corned Beef		
Corned beef, in pouch with pickling juices	5 to 7 days	Drained, 1 month
Ham, canned--labeled "Keep Refrigerated" opened unopened	 3 to 5 days 6 to 9 months	 1 to 2 months Doesn't freeze well
Ham, fully cooked vacuum sealed at plant, undated, unopened	2 weeks	1 to 2 months
Ham, fully cooked vacuum sealed at plant, dated, unopened	"use by" date on package	1 to 2 months
Ham, fully cooked, whole	7 days	1 to 2 months
Ham, fully cooked, half	3 to 5 days	1 to 2 months
Ham, fully cooked, slices	3 to 4 days	1 to 2 months
Hamburger, Ground & Stew Meat		
Hamburger & stew meat	1 to 2 days	3 to 4 months
Ground turkey, veal, pork, lamb & mixtures of them	1 to 2 days	3 to 4 months
Fresh Beef, Veal, Lamb, Pork		
Steaks	3 to 5 days	6 to 12 months
Chops	3 to 5 days	4 to 6 months
Roasts	3 to 5 days	4 to 12 months
Variety meats--tongue, liver, heart, kidneys, chitterlings	1 to 2 days	3 to 4 months
Pre-stuffed, uncooked pork chops, lamb chops, or chicken breast stuffed with dressing	1 day	Doesn't freeze well

Product	Refrigerator (40 °F)	Freezer (0 °F)
Soup & Stews		
Vegetable or meat added	3 to 4 days	2 to 3 months
Meat Leftovers		
Cooked meat and meat casseroles	3 to 4 days	2 to 3 months
Gravy and meat broth	1 to 2 days	2 to 3 months
Fresh Poultry		
Chicken or turkey, whole	1 to 2 days	1 year
Chicken or turkey, pieces	1 to 2 days	9 months
Giblets	1 to 2 days	3 to 4 months
Cooked Poultry		
Fried chicken	3 to 4 days	4 months
Cooked poultry casseroles	3 to 4 days	4 to 6 months
Pieces, plain	3 to 4 days	4 months
Pieces covered with broth, gravy	1 to 2 days	6 months
Chicken nuggets, patties	1 to 2 days	1 to 3 months
Pizza		
Pizza	3 to 4 days	1 to 2 months
Stuffing		
Stuffing--cooked	3 to 4 days	1 month

Product	Refrigerator (40 °F)	Freezer (0 °F)
Beverages, Fruit		
Juices in cartons, fruit drinks, punch	3 weeks unopened 7 to 10 days opened	8 to 12 months
Dairy		
Butter	1 to 3 months	6 to 9 months
Buttermilk	7 to 14 days	3 months
Cheese, Hard (such as Cheddar, Swiss)	6 months, unopened 3 to 4 weeks, opened	6 months
Cheese Soft (such as Brie, Bel Paese)	1 week	6 months
Cottage Cheese, Ricotta	1 week	Doesn't freeze well
Cream Cheese	2 weeks	Doesn't freeze well
Cream--Whipped, ultrapasteurized	1 month	Doesn't freeze well
Cream--Whipped, Sweetened	1 day	1 to 2 months
Cream--Aerosol can, real whipped cream	3 to 4 weeks	Doesn't freeze well
Cream--Aerosol can, non dairy topping	3 months	Doesn't freeze well
Cream, Half and Half	3 to 4 days	4 months
Eggnog, commercial	3 to 5 days	6 months
Margarine	4 to 5 months	12 months
Milk	7 days	3 months
Pudding	package date; 2 days after opening	Doesn't freeze well
Sour cream	7 to 21 days	Doesn't freeze well
Yogurt	7 to 14 days	1 to 2 months

Product	Refrigerator (40 °F)	Freezer (0 °F)
Dough		
Tube cans of rolls, biscuits, pizza dough, etc.	Use-by-date	Don't freeze will burst
Ready-to-bake pie crust	Use-by-date	2 months
Cookie dough	Use-by-date unopened or opened	2 months
Fish		
Lean fish (cod, flounder, haddock, sole, etc.)	1 to 2 days	6 months
Fatty fish (bluefish, mackerel, salmon, etc.)	1 to 2 days	2 to 3 months
Cooked fish	3 to 4 days	4 to 6 months
Smoked fish	14 days or date on vacuum package	2 months in vacuum package
Shellfish		
Shrimp, scallops, crayfish, squid, shucked clams, mussels and oysters	1 to 2 days	3 to 6 months
Live clams, mussels, crab, lobster and oysters	2 to 3 days	2 to 3 months
Cooked shellfish	3 to 4 days	3 months

Note: These short but safe time limits will help keep refrigerated foods from spoiling or becoming dangerous to eat. Because freezing keeps food safe indefinitely, recommended storage times are for quality only. Storage times are from date of purchase unless specified on chart. It is not important if a date expires after food is frozen.

Sources:

- **USDA, Food Safety and Inspection Service**
- ***The Food Keeper,* The Food Marketing Institute**

U.S. Department of Agriculture
Food Safety and Inspection Service
www.fsis.usda.gov

Managing Food Safety: A Manual for the Voluntary Use of HACCP Principles for Operators of Food Service and Retail Establishments FDA/Center for Food Safety & Applied Nutrition
(Web site where this information is found) http://www.cfsan.fda.gov/~dms/hret2-2.html

Chapter 2 - The Process Approach

APPLYING HACCP PRINCIPLES TO RETAIL AND FOOD SERVICE

What is the process approach?

The process approach can best be described as dividing the many food flows in an establishment into broad categories based on activities or stages in the flow of food through your establishment, then analyzing the hazards, and placing managerial controls on each grouping.

What is the flow of food?

The flow of food in a typical RCCI is the path that food follows from receiving to the resident. Several stages make up the flow of food and are called operational steps. Examples of operational steps include receiving, storing, preparing, cooking, cooling, reheating, holding, and serving, Keep in mind that the terminology may differ between food services.

What are the three food preparation processes most often used in retail and food service establishments?

Most food items produced in an RCCI can be categorized into one of three preparation processes based on the number of times the food passes through the temperature danger zone between 41° F to 135 ° F:

- **Process 1: Food Preparation with No Cook Step**
  Example flow: Receive - Store - Prepare - Hold - Serve
  (other food flows are included in this process, but there is no cook step to destroy pathogens)
- **Process 2: Preparation for Same Day Service**
  Example flow: Receive - Store - Prepare - Cook - Hold - Serve
  (other food flows are included in this process, but there is only one trip through the temperature danger zone)
- **Process 3: Complex Food Preparation**
  Example flow: Receive - Store - Prepare - Cook - Cool - Reheat - Hot Hold - Serve
  (other food flows are included in this process, but there are always two or more complete trips through the temperature danger zone)

Determining Risk Factors in Process Flows

Several of the most common risk factors associated with each food preparation process are discussed below. Remember that while you should generally focus your food safety management system on these risk factors, there may be other risk factors unique to your operation or process that are not listed here. You should evaluate your operation and the food preparation processes you use independently.

Facility-wide Considerations

In order to have active managerial control over personal hygiene and cross-contamination, you must implement certain control measures in all phases of your operation. All of the following control measures should be implemented regardless of the food preparation process used:

- **No bare hand contact with ready-to-eat foods (or use of an approved, alternative procedure)** to help prevent the transfer of viruses, bacteria, or parasites from hands.
- **Proper handwashing** to help prevent the transfer of viruses, bacteria, or parasites from hands to food.
- **Restriction or exclusion of ill employees** to help prevent the transfer of viruses, bacteria, or parasites from hands to food.
- **Prevention of cross-contamination** of ready-to-eat food or clean and sanitized food-contact surfaces with soiled cutting boards, utensils, aprons, etc. or raw animal foods.

Food Preparation Process 1 - Food Preparation with No Cook Step

Example Flow: RECEIVE - STORE - PREPARE - HOLD - SERVE
Several food flows are represented by this particular process. Many of these food flows are common to both retail food stores and food service facilities, while others only apply to retail operations. Raw, ready-to-eat food like sashimi, raw oysters, and salads are grouped in this category. Components of these foods are received raw and will not be cooked prior to consumption.

Foods cooked at the processing level but that undergo no further cooking at the retail level before being consumed are also represented in this category. Examples of these kinds of foods are deli meats, cheeses, and other pasteurized products. In addition, foods that are received and sold raw but are to be cooked by the consumer after purchase, i.e. hamburger meat, chicken, and steaks, are also included in this category.

All the foods in this category lack a kill (cook) step *while at the retail or food service establishment*. In other words, there is no complete trip made through the danger zone for the purpose of destroying pathogens. You can ensure that the food received in your establishment is as safe as possible by requiring purchase specifications. Without a kill step to destroy pathogens, your primary responsibility will be to prevent further contamination by ensuring that your employees follow good hygienic practices.

Cross-contamination must be prevented by properly storing your products away from raw animal foods and soiled equipment and utensils. Foodborne illness may result from ready-to-eat food being held at unsafe temperatures for long periods of time due to the outgrowth of bacteria.

In addition to the facility-wide considerations, a food safety management system involving this food preparation process should focus on ensuring that you have active managerial control over the following:

- **Cold holding or using time alone** to inhibit bacterial growth and toxin production.
- **Food source** (especially for shellfish due to concerns with viruses, natural toxins, and *Vibrio* and for certain marine finfish intended for raw consumption due to concerns with ciguatera toxin.
- **Receiving temperatures** (especially certain species of marine finfish due to concerns with scombrotoxin.
- **Date marking** of ready-to-eat potentially hazardous foods (PHF) held for more than 24 hours to control the the growth of *Listeria monocytogenes*.
- **Freezing** certain species of fish intended for raw consumption due to parasite concerns.
- **Cooling** from ambient temperature to prevent the outgrowth of spore-forming or toxin-forming bacteria.

Food Preparation Process 2 - Preparation for Same Day Service

Example Flow: RECEIVE - STORE - PREPARE - COOK - HOLD - SERVE
In this food preparation process, food passes through the danger zone only once in the retail or food service establishment before it is served or sold to the consumer. Food is usually cooked and held hot until served, i.e. fried chicken, but can also be cooked and served immediately. In addition to the facility-wide considerations, a food safety management system involving this food preparation process should focus on ensuring that you have active managerial control over the following:

- **Cooking** to destroy bacteria and parasites
- **Hot holding or using time alone** to prevent the outgrowth of spore-forming bacteria.

Food Preparation Process 3 - Complex Food Preparation

Example Flow: RECEIVE - STORE - PREPARE - COOK - COOL - REHEAT - HOT HOLD – SERVE

Foods prepared in large volumes or in advance for next day service usually follow an extended process flow. These foods pass through the temperature danger zone more than one time; thus, the potential for the growth of spore-forming or toxigenic bacteria is greater in this process. Failure to adequately control food product temperatures is one of

the most frequently encountered risk factors contributing to foodborne illness. In addition, foods in this category have the potential to be recontaminated with *L. monocytogenes*, which could grow during refrigerated storage. FDA recommends that food handlers minimize the time foods are at unsafe temperatures.

In addition to the facility-wide considerations, a food safety management system involving this food preparation process should focus on ensuring that you have active managerial control over the following:

- **Cooking** to destroy bacteria and parasites
- **Cooling** to prevent the outgrowth of spore-forming or toxin-forming bacteria
- **Hot and cold holding or using time alone** to inhibit bacterial growth and toxin formation
- **Date marking** of ready-to-eat PHF held for more than 24 hours to control the growth of *Listeria monocytogenes*
- **Reheating** for hot holding, if applicable